



INDIAN INSTITUTE OF MATERIALS MANAGEMENT
Post Graduate Diploma in Materials Management
Graduate Diploma in Materials Management
PAPER No. 13
Research Methodology

Dec 2014

Date : 21.12.2014
Time : 10.00 a.m to 1.00 pm
Instructions :

Max. Marks :100
Duration : 3 Hrs.

1. Part A: Four Questions (Q 1 to Q 4). All questions are compulsory. Each Question carries 1 mark. (Total marks 32).
2. Part B: From Part B answer any three out of 5 questions. Each question carries 16 marks. (Total marks 48).
3. Part C: (Compulsory). Case study. (Total marks 20)

PART- A

32 marks

Attempt all questions. Each Question carries 1 mark.

Q,1. Select and write the correct & full answer of your choice from the following . 8 marks

(Please do not write only part nos. like i, ii, iii, etc.).

- (a) Exploratory research to study a problem
- (i) explains the ambiguity
 - (ii) increases the ambiguity
 - (iii) resolves the ambiguity
- (b) ANOVA stands for
- (i) Analysis of variation
 - (ii) Analysis of variability
 - (iii) Analysis of Variance.
- (c) Area under the Normal curve for $Z > = 1$ is :
- (i) 0.2714
 - (ii) 0.1587
 - (iii) 0.3143
- (d) The Objective of an experiment is
- (i) To measure the causal variables
 - (ii) To identify extraneous variables
 - (iii) To infer causality between variables.
- (e) t- test is used when
- (i) sample size $n > 30$ and σ is not known
 - (ii) sample size $n < 30$ and σ is not known
 - (iii) sample size $n < 30$ and σ is known
- (f) Complete enumeration of all the elements of a population is known as
- (i) A complete survey
 - (ii) Census of population
 - (iii) Complete list of population

- (g) A research design is concerned with
- (i) The study of a problem
 - (ii) To find the cause for study
 - (iii) The way to study the problem
- (h) Conclusive research is
- (i) Fundamental research
 - (ii) Exploratory research
 - (iii) Descriptive research

Q.2. Match the following in the correct order

8 marks

- | A | B |
|-----------------------------|---------------------------|
| 1. Cross-sectional study | a. Cause and effect study |
| 2. Causal Research | b. Close ended questions |
| 3. Coefficient of variation | c. Frame work of research |
| 4. Longitudinal study | d. Confidence Interval |
| 5. Conclusive research | e. A single moment study |
| 6. Structured Questionnaire | f. Consistency |
| 7. Research Design | g. A stretched time study |
| 8. Estimation | h. Descriptive research |

Q.3. Write " true" or "false"- before the following statements:

8 marks

- (i) - Conclusive research is followed by Exploratory research.
- (ii) - Applied research develops academic concepts.
- (iii) - Extraneous variables do not affect the causality between variables.
- (iv) - Experiments are used to identify a cause and effect relationship'
- (v) - For a careful investigation a planned research design is essential.
- (vi)- A research design is just a gamut of techniques.
- (vii) - ANOVA is applied to study the difference between two populations.
- (viii) - Syndicated service organizations provide outside information to the companies for research

Q.4. Fill the gaps with a correct one out of the given choices

- (i) Precision refers to _____ to reality as inferred from a sample. (closeness/ approximation)
- (ii) For good business research _____ data is required (economical/reliable)
- (iii). A variable is a quantity that can take on _____ values. (different/in separate)
- (iv) In simple random sampling each and every element of the population has an _____ chance of being selected in the sample. (equal /unknown)
- (v) In focus group method a moderator _____ becomes an integral part of the main discussion. (seldom / ever)
- (vi) MIS stands for _____ (market information system / money integrated status)
- (vii) Level of significance is denoted by _____ (alpha / Sigma)
- (viii) The objective of applied research is ____ (solving a problem / gaining knowledge)

PART B

48 marks

(Answer any three out of the five questions Each question carries 16 marks)

Q.5. Define Research. What is research Methodology ? Explain the difference between Research Methods and Research Methodology.

Q.6. What is Exploratory Research ? Explain the Focus Group Technique used in Exploratory Research and the role of a Moderator in the discussion.

Q.7 (a) Explain briefly the steps involved in Hypothesis testing.

(b) In a large city, last year it was studied that the average time spent by persons (including children) watching the T.V. per day was 3 hours. A recent study of a randomly selected sample of 64 persons (including children) revealed that the average time spent on T.V. was 3 hours 15 minutes with a standard deviation of 30 minutes. Assuming that the TV. times are normally distributed, test the Hypothesis at 5 % level of significance that the mean time spent on TV has not increased. ($Z = 1.96$ for $\alpha = 0.05$)

Q.8. (a) What is sampling ? Briefly explain the various sampling methods used in gathering data.

(b). Estimate the population mean with 95 % confidence if a sample of size 81 is found to have the mean as 56 with standard deviation 4.

Q.9. (a) What are the characteristics of a good research report.

(b) Explain the difference between the technical report and a popular report.

PART C

20 marks

Q.10 Case Study - Compulsory

A company "SAJAL" of Health Products introduced a mixed- fruit jam with the brand name MANGNO. Initially there was a good response from the consumers. However the sale became stagnant after a year and then it declined gradually to a low level. A market research indicated the following factors as the prominent causes :

- (1) The price of MANGNO (w / w) was much higher than the competing brands of other companies which had entered the market after the success of MANGNO.
- (2). Competitor's advertisement of their brands were more effective and repeated more often. Some members of the Marketing team pointed out some other things which could have also been contributing causes for the low sale; like weak display, poor design of the bottle, color of the content, taste etc.

As a student of Research Methodology, you are required to answer the following questions :

1. Do you think that Higher Price was the only main cause of low sale ?
- 2 .If an experiment is to be conducted to investigate the cause-effect relationship between *A* cause and *Sale* of MANGNO then :
 - (i) What will you take as the independent variable and which will be the dependent variable ?
 - (ii) Name some of the Extraneous variables in your experiment.
3. Give your suggestions to increase the sale of MANGNO.
